

Please amend claim 8 as follows:

~~A2~~
8. (Amended) The device according to claim 1, characterized in that the second means comprise a laser or microlaser for illuminating the whole of the microchannel structure (4) and in that the third means comprise a birefringent crystal (16, 17) for separating the fluorescence light emitted according to two components polarized perpendicularly to each other.

Please amend claim 12 as follows:

~~A3~~
12. (Amended) The device according to claim 8, characterized in that the birefringence crystal is a LiNbO_3 crystal or a calcite crystal.

PLEASE ADD THE FOLLOWING CLAIMS:

~~A4~~
13. The device according to claim 3, characterized in that the coupling device comprises a diffraction grating (5).

~~5/10/12~~
14. The device according to claim 3, characterized in that the coupling device comprises a cylindrical lens (2).

15. The device according to claim 10, characterized in that the birefringence crystal is a LiNbO_3 crystal or a calcite crystal.